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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/390,228	09/03/1999	MAYUMI UNO	10873.274US11	6547

23552 7590 03/06/2003

MERCHANT & GOULD PC  
P.O. BOX 2903  
MINNEAPOLIS, MN 55402-0903

EXAMINER
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ANGEBRANNDT, MARTIN J

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 03/06/2003

20

Please find below and/or attached an Office communication concerning this application or proceeding.

AS-21

<b>Office Action Summary</b>	<b>Application No.</b> 09/390,228	<b>Applicant(s)</b> UNO ET AL.	
	<b>Examiner</b> Martin J Angebranndt	<b>Art Unit</b> 1756	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 11/18/02 & 12/11/02.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-29,31,50-64,74 and 75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29,31,50-64,74 and 75 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)         | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____                                    |

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1 The response provided by the applicant has been read and given careful consideration. Responses to the arguments offered by the applicant are presented after the first rejection to which they are directed.

2 The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

The full name of each inventor (family name and at least one given name together with any initial) has not been set forth.

As inventor 201, Mayumi UNO has signed in the place reserved for Mayumi OTOBA (typed).

3 The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4 Claims 1-29,31,50-64 and 74-75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshioka et al. '363, in view of Yoshioka et al. JP 04-052188 and either of Yoshitomi et al. JP 63-171453, Kinou et al. JP 03-248338, JP 01-276453 or Shino et al. JP 05-274726.

Yoshioka et al. '363 in figure 3, shows a substrate, a 160 nm SiO<sub>2</sub>-ZnS dielectric layer, GeTeSb nitride surface layer (20), an SbGeTe recording layer, a second 20 nm SiO<sub>2</sub>-ZnS dielectric layer, a, Al reflective layer and a protective layer. This is provided on at least one of the recording layer surfaces. (7/8-34)

Yoshioka et al. JP 04-052188 in the example on page 4 is a substrate, a dielectric layer, an SbGeTe recording layer, a GeN layer, a second dielectric layer and a reflective layer.

Yoshitomi et al. JP 63-171453. in the examples described with respect to the table on page 3. Note the use of GeN, GeAlN and GeZrN in page 3. Note that the examiner holds that the substrate is an adjacent layer. Zr is a IVa metal according to the periodic table used by the applicants in the specification and is recited in claims 1 and 31 along with Al and these claims are also open to the addition of other elements in the barrier layer due to the language used.

Kinou et al. JP 03-248338 in the examples described in the abstract. The use of GeSiZrN in the examples and in the abstract. Zr and Si are recited in claims 1 and 31 and Zr is embraced by the groups of claim 50. The issue of cracking or peeling is specifically discussed in the abstract. with respect to peeling and cracking.

JP 01-276453 in the examples described in the abstract. The use of GeSiN in the examples and in the abstract.

Shindo et al. JP 05-274726 in the examples described in the abstract. The use of GeSiNH in the examples on page 15 and in the abstract

In addition to the basis above, it would have been obvious to include additives, such as Al, Si, and Zr, in the GeN protective layers of the invention of Yoshioka et al. '363 as modified by Yoshioka et al. JP 04-052188, based upon the disclosure of equivalent function as protective layers within either of Yoshitomi et al. JP 63-171453, Kinou et al. JP 03-248338, JP 01-276453 or Shino et al. JP 05-274726 and particularly the strong showing of equivalence by Yoshitomi et al. JP 63-171453.

In the analysis of the Yoshioka et al. '363, the applicant ignores the nitride surface layer of the GeTeSb recording layer. This is considered to meet the barrier layer limitation of the claims. The Yoshioka et al. JP 04-052188 is applied to evidence that this would be desirable on the topside of the recording medium as well as below the recording layer as evidenced by

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Yoshioka et al. '363 therefore rendering it obvious to provide a GeN layer on both sides of the recording layer. The examiner notes that the Yoshitomi et al. JP 63-171453, Kinou et al. JP 03-248338, JP 01-276453 and Shino et al. JP 05-274726 are each analogous art as they concern laser recording media with metallic recording layers and therefore they are considered to be relevant to the issues of protection of the recording layer, thereby rendering the addition of Si, Al and/or Zr obvious to one skilled in the art.

The applicant argues that the magneto-optical recording media are from a non-analogous art as they use the Kerr effect in recording. The examiner notes that the Kerr effect is measured using optical techniques and notes that the media are recorded and read optically. The examiner further notes that as these are optically recordable media they are analogous and the motivation for using protective layers is the same as in other optically recordable media. The examiner notes that the JP 03-248338 attributes improved temperature and humidity resistance to the protective layer, the JP 01-276453 attributes reduced stress cracking to the protective layer, JP 63-171453 describes longer recording layer life, Shindo et al. JP 05-274726 describes improved long term reliability and easy protective film formation and JP 04-069833 teaches improved stability. All of these improvements would also be desirable in other optically recordable media and in each case, the layer is directly adjacent to the recording layer. Therefore one skilled in the art would only substitute these for the GeN or GeNO layers of the primary references, rather than other layers, particularly in view of the similarity in their composition. The issue of being adjacent to the substrate is to make it clear that these are in a position to act as barrier layer to prevent materials from passing through them, such as water, oxygen, residual solvents or the like, from other layers. The rejection stands

In response to the arguments of 02/28/02, the position of the examiner in terms of claims interpretation is clear for the record and the dielectric layers of Yoshioka et al. '363 and Yoshioka et al. JP 04-052188 are exactly those disclosed on page 20 at line 11-16 of the instant specification as the protective layer materials and notes that the nitrided layers of these references are disclosed as being between the recording layer and the protective/dielectric layer in the Yoshioka et al. '363 and Yoshioka et al. JP 04-052188 references. The examiners position is that it would have been obvious to use similar layers to the GeN layers of Yoshioka et al. '363 and Yoshioka et al. JP 04-052188, such as those of Yoshitomi et al. JP 63-171453, Kinou et al. JP 03-248338, JP 01-276453 or Shino et al. JP 05-274726 in place of the GeN layers for these references with a reasonable expectation of these acting in a similar manner does to their disclosed use within the optical recording media art and their chemical similarity. The examiner has considered the data available in the specification and notes that there is no benefit disclosed which is commensurate with the scope of the coverage sought. The examiner notes that the data in table 9 evidences the equivalence of GeN layers for nitrogen levels of 10 and 20 % and does not provide a basis for unobvious results. The same can be said for tables 11-13. Table 14 evidences no difference for nitrogen levels of 10% in GeONX layers. The applicant may wish to consider this data when formulating the next amendment. The rejection stands. Yoshitomi et al. JP 63-171453, Kinou et al. JP 03-248338, JP 01-276453 or Shino et al. JP 05-274726.

The applicant provided no arguments beyond those addressed above or in the advisory action of 10/16/2002. The examiner notes that for 10 and 20% nitrogen content the additive in amounts of 25% apparently has no effect, based upon the data in table 9 on page 71. The examiner also notes that table 11 evidences similar data showing no additional benefit for the

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addition of Cr for up to 50% at a 20% nitrogen partial pressure and similar data for up to 5% Cr at 30% nitrogen partial pressure. Therefore any showing that the applicant might contemplate would require that the claims be commensurate in scope with the showing to provide a basis for patentability of the claims.

5 The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6 Claims 1-29,31,50-64 and 74-75 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 8 and 9 of U.S. Patent No. 6,503,690. Although the conflicting claims are not identical, they are not patentably distinct from each other because they seek coverage for GeTeSb phase change recording media (see claim 26 of instant application) having barrier layer(s) comprising GeXN or GeXON barrier layers separating the recording layer from sulfur containing protective layers.

7 Any inquiry concerning this communication or earlier communications from the examiner should be directed to Martin Angebrannndt whose telephone number is (703) 308-4397.

I am normally available between 7:30 AM and 5:00 PM, Monday through Thursday and 7:30 AM and 4:00 PM on alternate Fridays.

If repeated attempts to reach me are unsuccessful, my supervisor may be reached at (703) 308-4552.



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Facsimile correspondence should be directed to (703) 892-9311.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0661.

A handwritten signature in black ink, appearing to read 'Martin J. Angebranndt', written in a cursive style.

Martin J. Angebranndt  
Primary Examiner, Group 1750  
March 3, 2003